Serial No. 09/692,600 Amdt. dated October 1, 2004 Reply to Office Action of July 9, 2004 Altorney Docket No. CAS0014

Amendments to the Claims:

1. (Original) A method of decoding a packed representation of multiple parses comprising the steps of:

providing a packed representation including at least one edgenode, each edgenode including a substitution list;

creating a current forest object;

replicating the current forest object for each edgenode having a substitution list .
containing greater than one edgenode; and

traversing each edgenode of the packed representation.

- 2. (Original) The method of claim 1 further comprising the step of performing a scalar update of the current forest object for each edgenode having a substitution list containing exactly one edgenode.
- 3. (Original) The method of claim 1 further comprising the step of traversing each edgenode of the packed representation using a depth-first traversal.
- 4. (Original) The method of claim 1 wherein the current forest object is replicated by a number equal to a number of edgenodes in the substitution list of a current edgenode when the number of edgenodes in the substitution list is greater than one.
- 5. (Original) The method of claim 4 further comprising the step of performing a vector update of the current forest object with the substitution list of the current edgenode.

Serial No. 09/692,600 Amdt. dated October 1, 2004 Reply to Office Action of July 9, 2004 Attorney Docket No. CA\$0014

- 6. (Original) The method of claim 4 further comprising the step of updating each of the replicated forest objects with an element corresponding to a different edgenode in the substitution list.
- 7. (Original) The method of claim 1 further comprising the step of setting a current edgenode to a root edgenode of the packed representation.
- 8. (Original) The method of claim 7 further comprising the step of setting the current forest object to an empty forest object.
- 9. (Original) The method of claim 8 further comprising the step of setting a next edgenode of the packed representation to a leftmost child of the current edgenode.
- 10. (Currently Amended) A program for decoding a packed representation of parses stored on computer readable medium comprising the steps of:

computer readable program code for creating a current forest object;

computer readable program code for traversing each edgenode of the packed representation; and

computer readable program code for replicating the forest object for each edgenode having a substitution list of elements greater than 1.

11. (Original) The program of claim 10 wherein the forest object is replicated a number of times equal to the number of elements in the substitution list.

Scrial No. 09/692,600 Amdt. dated October 1, 2004 Reply to Office Action of July 9, 2004 Attorney Docket No. CAS0014

- 12. (Original) The program of claim 11 further comprising computer readable code for performing a scalar update of the current forest object for each edgenode having a substitution list containing exactly one edgenode.
- 13. (Original) The program of claim 10 further comprising computer readable code for updating each of the replicated forests with a treenode corresponding to one of the elements in the substitution list.
- 14. (Original) The program of claim 10 further comprising computer readable code for setting a current edgenode to a root edgenode of the packed representation, and for setting the current forest object to an empty forest object.
- 15. (Original) The program of claim 14 further comprising: computer readable program for setting a next edgenode to a leftmost child of the current edgenode; and

setting the current edgenode to the next edgenode.

- 16. (Original) The program of claim 15 further comprising computer readable program code for setting the next edgenode to a next one of the edgenodes in the substitution list when the current edgenode does not have at least one child.
- 17. (Original) The program of claim 16 further comprising computer readable program code for setting the current forest object to a forest object of the next one of the edgenodes in the substitution list.

Serial No. 09/692,600 Amdt. dated October 1, 2004 Reply to Office Action of July 9, 2004

Attorney Docket No. CA\$0014

18. (Original) The program of claim 17 further comprising

computer readable program code for performing a node closure operation on a current forest object when the current edgenode in the last edgenode in the substitution list and when the current edgenode does not have a sibling to the right of the current edgenode.

- 19. (Currently Amended) The computer program of claim 18 further comprising computer readable program code for setting a next edgenode to null after the node closure operation, when the current edgenode does not have a parent.
- 20. (Currently Amended) The computer program of claim 18 further comprising computer readable program code for setting the current edgenode to parent of current edgenode, after the closure operation.
- 21. (Currently Amended) A system for decoding multiple parses comprising: a parser which receives output from a speech recognizer and creating parses stored in a packed representation, the packed representation including a plurality of edgenodes; each edgenode including a substitution list; and

an unpacking program stored on a computer readable medium including program code for creating an unpacked forest including the steps of creating a current forest object, traversing each edgenode of the packed representation using a depth-first traversal, replicating the current forest object a number of times equal to the number of edgenodes in the substitution list, and updating each copy of the current forest object with a treenode corresponding to one of the edgenodes of the substitution list.